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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,868	03/19/2001	Claymens Lee	JCLA6780	8636

7590

02/26/2004

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Irvine, CA 92614

EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2643

4

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,868

Applicant(s)

LEE, CLAYMENS

Examiner

TUAN A PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langberg et al. (U.S. Patent No. 6,421,377, hereinafter, "Langberg") in view of Ikeda (U.S. Patent No. 5,940,455).

Regarding claim 1, Langberg teaches an apparatus of a digital echo canceller that is suitable to use on a full-duplex digital echo transceiver and is used to cancel a produced echo signal (see figure 1, col.1, ln.43-63) the apparatus comprises:

a plurality of first-set delay circuits installed wherein each delay circuit has an input and an output, and are all connected in series, and the first input receives an input signal that transmitted from the full-duplex digital transceiver, and the first-set delay circuits are arranged in groups and each group has N delay circuits (see figure 4, col.6, ln.60-67, col.5, ln.1-46);

a plurality of second-set delay circuits wherein each circuit has an input and an output and are all connected in series, and the first input is connected to the output of the selector (see figure 4, col.6, ln.60-67, col.5, ln.1-46);

a plurality of multipliers wherein the number of the multipliers is the same as the number of the second-set delay circuits, and the multipliers are connected respectively to the outputs of the second-set delay circuits, and the transmitting signals from the second-set delay circuits are multiplied respectively to correlation coefficients (see figure 4, col.6, ln.60-67, col.5, ln.1-46);

an adder that adds the results from the multiplication operation together to produce an estimated echo signal, wherein the estimated echo signal cancels the echo signal (see figure 4, col.6, ln.60-67, col.5, ln.1-46).

It should be noticed that langberg fails to clearly teach a selector with an input and an output, wherein the input is based on an exhaustive search that chooses to connect to one the outputs of the first delay circuits. However, Ikeda teaches such features (see col.4, ln.28-51) for a purpose of selecting the tap coefficients.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of selector with an input and an output, wherein the input is based on an exhaustive search that chooses to connect to one the outputs of the first delay circuits, as taught by Ikeda, into view of Langberg in order to improve the echo in communication system.

Regarding claim 2, Ikeda further teaches a selector with an input and an output, wherein the input is based on an exhaustive search that chooses to connect to one the outputs of the first delay circuits (see col.4, ln.28-50).

Allowable Subject Matter

3. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 5-6 are allowed.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Agazzi et al. (U.S. Patent No. 6,477,200), Koyama et al. (U.S. Patent No. 5,388,092), Rasmusson (U.S. Patent No. 5,475,731), and Miller (U.S. Patent No. 4,805,215) are not applied into this Office Action, they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method for using echo estimate to modify error signal and echo canceller for two-wire full duplex digital data transmission.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987 and E-mail address is: **tuan.pham@USPTO.GOV**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and

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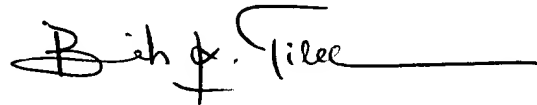
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

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Date: February 10, 2004

Examiner

Tuan Pham

A handwritten signature in black ink, appearing to read "Binh Tieu", with a long horizontal line extending to the right.

BINH TIEU
PRIMARY EXAMINER